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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,615	01/14/2002	William Franklin Burgoyne JR.	06060 USA	2704

23543 7590 04/11/2003

AIR PRODUCTS AND CHEMICALS, INC.  
PATENT DEPARTMENT  
7201 HAMILTON BOULEVARD  
ALLENTOWN, PA 181951501

EXAMINER

TRUONG, DUC

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 04/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/046,615

Applicant(s)

BURGOYNE, WILLIAM FRANKLIN

Examiner

Duc Truong

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

Claims 22 2-8 have been cancelled.

The disclosure is objected to because of the following informalities: \*\*\*

The polymer repeat units on page 3 and on pages 7-8 are inconsistent: each repeat unit on page 3 has three ether groups whereas each unit on pages 7-8 has only two ether group.

Appropriate correction is required.

Claims 1, 4 and 14-15 are objected to because of the following informalities: for the same reasons as stated above. Appropriate correction is required.

Further, in claim 4, the Oxygen on the right hand side can not have four covalent bonds. G6 and G8 should be attached to Ar4.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burgoyne'170 of record on 1449 or EP 0758664 or EP 0755957.

Burgoyne'170 discloses a poly(arylene ether) polymer comprising repeating units of the structure (see col. 15, lines 5 et seq.; col. 3, lines 10 et seq.) in that each unit has two ether groups, corresponding to these in claims 14-15.

The reference further discloses the grafted polymer has repeating units of the structures (see cols. 4-7, cols. 17-18) in that one of the aryl radicals is a 9,9 hydroxyfluorenyl group, as in claim 13.

EP 0758664 and EP 0755957 disclose poly(arylene ether) polymers have repeating units of the structure (see Abstract, page 3, pages 10-11, 13 of '664; pages 3, 6, 11-12, 14 of '957).

The disclosures of the references differ from the instant claims in that they do not disclose specific units with so many variations, as in the claims .

However, the references do disclose specific structures which are included in the broad teaching of the claims. Therefore, it would have been obvious to one of ordinary skill in the art to select the variations from the references within the limitations of the instant claims to get the products of the claimed general formulae in the absence of a showing of unexpected results derived from said selections.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gurgoyne'170 of record on 1449.

The reference discloses a poly(arylene ether) polymer of the structure, as stated above.

The disclosure of the reference differs from the instant claims in that it does not disclose specific repeat units of claims 14-15 and an aryl radical of claim 16.

However, the reference does disclose the use of a G3 component, on page 5 et seq.

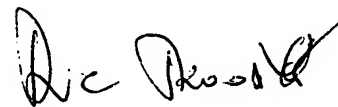
It would have been obvious to one of ordinary skill in the art to select The G3 component from the reference within the limitation of the instant claims since they have been shown to be effective in a similar system and thus would have been expected to provide adequate results. There is no showing of unexpected results derived from said selection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Truong whose telephone number is 703-308-2437. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703-308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9791 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

DT  
April 7, 2003



DUCTRUONG  
PRIMARY EXAMINER